

Description

Unidirectional lighting device for illuminating objects and/or for marking lanes, preferably in the airport area

The invention relates to a unidirectional lighting device for illuminating objects and/or for marking lanes, preferably in the airport area, according to the preamble of Claim 1.

US 4,920,468 discloses a searchlight having a housing which is positioned on a base part such that it is rotatable about a vertical axis. An assembly, which can be installed in the housing along a guide strip, has a light source including an incandescent bulb and a reflector, a tilting mechanism for the incandescent bulb and a front glass. The installed assembly is fastened to the housing by means of screws.

US 5,584,574 discloses an adjustable floodlight device having a canted screening plate which is rotatable about 360°. The essential components of this device are made of a weatherproof non-metallic material which is suitable for outdoor use, even in high temperatures. For example, the screening plate, a housing, and arm and a connecting housing are made of plastic.

The publication entitled "Approach, Threshold Runway End High Intensity Elevated Light" published by ADB, a Siemens company, 4/11.97, order number E10001-T95-A61-V1-7600 discloses a unidirectional lighting device for marking the approach and threshold area as well as the takeoff and landing path limits of airports. The lighting device comprises a main body having an external housing which can be erected and fastened on the ground, a post or a mast. The lighting device also comprises optical components, specifically a light source, a reflector

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and a front glass for producing a parallel light beam.

A change of the light source in this known lighting device is possible without tools, but can only be carried out at the erection location in the field via a door which is arranged on the rear panel of the external housing. In order to perform workshop maintenance of the optical components, the complete lighting device must be taken down, transported to the workshop and then aligned again after re-erection. The main body of the lighting device consists of a cast aluminum external housing and noble metal parts, and corrosion resistance is therefore difficult to achieve and only partly possible.

The invention therefore addresses the problem of overcoming the aforementioned disadvantages of the prior art in the case

of a lighting device of the type cited at the beginning, in particular of providing a lighting device whose maintenance is simplified.

According to the invention, the problem is solved by a lighting device of the type in question, said lighting device having the features described in the characterizing part of the Claim 1. As a result of the combination of the partly metallic optical components in a separate optics module which can be installed in the main body of the lighting device, and as a result of the construction of large parts of the external housing of the main body from non-metallic materials, a lower overall weight of the claimed lighting device is achieved, thereby making it easier to replace in the field. As a result of using non-metallic materials for the external housing, in particular a higher corrosion-resistance is achieved for a lighting device in accordance with the invention. Furthermore, the embodiment of the overall lighting device can be smaller, thereby reducing the wind sensitivity and therefore the danger of breakage. Consequently, it is possible to fasten a lighting device according to the invention onto higher masts than in the prior art. The non-metallic and therefore non-conducting construction of the external housing allows the insulated fastening of a drive amplifier of the lighting device, thereby allowing the reliable transmission of triggering signals even over cable lengths up to 250 m. The plastic construction of the external housing provides for greater flexibility in layout and production and for better frictional behavior. Due to the limited heat conductivity and electrical conductivity of non-metallic materials, there are fewer problems taking hold of and handling an external housing of corresponding construction. If the optics module is rotatably linked to the main body via pivoting means, the lighting device can be opened on site, i.e. at the erection location in the field, e.g. by

Claims

1. A unidirectional lighting device (10) for illuminating objects and/or for marking lanes, preferably in the airport area, having a main body (20) for erecting and fastening the lighting device (10), said main body including an external housing (22), and having optical components for generating a light beam along an optical axis (O), said optical components including at least a light source (32), a reflector (34) and a front glass (36), wherein the optical components (32, 34, 36) are arranged in an optics module (30) which can be attached to the main body (20),

characterized in that the external housing (22) is non-metallic and that the optics module (30) is rotatably (D) linked to the main body (20) via pivoting means (40), wherein the optics module (30) can be swung between an operating position in which it is fixed to the main body (20), and an opened maintenance position giving unimpeded access to the optical components (32, 34, 36).

2. The lighting device as claimed in Claim 1, characterized in that the optics module (30) can be separated from the main body (20).

3. The lighting device as claimed in Claim 1 or 2, characterized in that an upper part (24) of the main body (20), which upper part includes the optics module (30), can be tilted about a horizontal axis (H) and rotated about a vertical axis (V) in relation to a lower part (26) of the main body (20), which lower part supports said upper part (24).

4. The lighting device as claimed in Claim 3, characterized in that adjusting means (50) are provided for adjusting and fixing the tilt position of the

upper part (24) relative to the lower part (26) of the main body (20).

5. The adjusting means as claimed in Claim 3 or 4, characterized in that locking means (60) are provided for fixing the rotational position of the upper part (24) relative to the lower part (26) of the main body (20).

6. The lighting device as claimed in one of the Claims 1 to 5, characterized in that the non-metallic external housing (22) of the main body (20) is designed as a plastic part, preferably an injection molded part.